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## ABSTRACT

The present invention provides a method of transplanting hematopoietic cells between genetically unrelated individuals, comprising administering to the recipient, in combination with the administration of the hematopoietic cells, an amount of mononuclear cells which are treated so as to substantially reduce their ability to cause graft versus host disease while they retain their ability to proliferate in the recipient. The treated mononuclear cells can facilitate engraftment of hematopoietic cells when transplanted in combination with hematopoietic cells, treat or prevent infections, and treat cancer.